



**PARK CITY MUNICIPAL CORPORATION**

**SOILS ORDINANCE AREA ENVIRONMENTAL MANAGEMENT SYSTEM**

**2006 ANNUAL REPORT**

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**Prepared by: Park City Municipal Corporation (PCMC)**  
**445 Marsac Avenue**  
**P.O. Box 1480**  
**Park City, Utah 84060-1480**  
**Jeff Schoenbacher, Environmental Coordinator**  
**(435) 615-5058**  
**[jschoenbacher@parkcity.org](mailto:jschoenbacher@parkcity.org)**

**Submitted to: Utah Department Environmental Quality**  
**168 North 1950 West**  
**Salt Lake City, UT 84114**  
**Mo Slam, Project Manager**  
**(801) 536-4282**

**United States Environmental Protection Agency**  
**Region 8**  
**999 18<sup>th</sup> Street**  
**Suite 500**  
**Denver, CO 80202**  
**Kathy Hernandez, Project Manager**  
**(303) 312-6101**

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## 1.0 INTRODUCTION:

In a cooperative effort with the Utah Department of Environmental Quality (UDEQ) and the United States Environmental Protection Agency (USEPA), Park City Municipal Corporation (PCMC) has agreed to the implementation of an Environmental Management System (EMS) to further protect human health and the environment within the Soils Ordinance Area. The established goals of the EMS were to define the environmental procedures, monitoring, education, and controls for containing soils impacted with mine tailings. The EMS program was adopted by [resolution](#) and funded by the City Council on April 15<sup>th</sup> 2004<sup>1</sup>. Furthermore, due to the requirements within the EMS, the City Council has also approved the revised “[Park City’s Landscaping and Maintenance of Soil Cover Ordinance](#)”<sup>2</sup> in order to support the EMS.

This annual report represents PCMC 2006 Annual Report, which the City agreed to submit to USEPA and UDEQ in order to summarize the annual EMS benchmarks.

## 2.0 SOIL MITIGATION COMPLIANCE PROGRAM

Represented under [Addendum 1](#) is the current compliance map for all properties within the original soils ordinance boundary. The lots identified in red are properties that have been capped and are considered compliant with the ordinance. The lots identified in black, are properties that have either not been sampled or have been sampled and are under enforcement. Finally, the properties identified in yellow are units that were capped during the Improvement District time frame. Within the original ordinance boundary there are 293 residential lots and to date there remain 20 properties that have yet to be sampled or capped with 6” of acceptable cover. As a result, there are 262 lots that have been capped and sampled to verify compliance and subsequently a Certificate of Compliance has been issued.

As agreed upon within the EMS proposal, PCMC chose to pursue a goal of capping 15 lots per year. Again, that goal was exceeded this year, resulting in 32 properties being issued “Certificate of Compliance” document which verify the installation of a cap and acceptable cover (<200 ppm lead). Out of 31 lots, all were capped in accordance with the conventional landscaping standard of 6” of clean topsoil substrate and vegetation layer. Typically, there continues to be many property owners that prefer the combination of the xeriscape and conventional landscaping standard. The xeriscape standard was a 2004 revision to the ordinance and provided owners with the flexibility of achieving compliance by employing water conservation practices. Similar to last year, there were some owners that went even further with the xeriscape standard by installing a 6” clean top soil substrate along with a weed barrier fabric, and 6” of bark or rock. It should also be noted that the repository at Richardson Flats continues to be a beneficial resource for property owners that were concerned with the financial impacts of disposing of soils within a permitted landfill. Because of the existence of the repository, many owners have removed berms containing mine tailings as well as choosing to excavate an additional 12” to 16” of impacted soil and reincorporate clean topsoil in order to re-certify the lot. These owners utilized the repository for disposing of generated soils in order to achieve compliance with the ordinance standards.

The sampling protocol for a property seeking compliance remains the same; composite samples are procured from the front, back, and both sides of the dwelling. The samples are then

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<sup>1</sup> Tab 1 – Council Resolution - 4/15/04

<sup>2</sup> Tab 2 - Chapter 15 – 11-15-1 Building Code

submitted under a Chain of Custody to Chemtech-Ford Laboratory (State Certified) and analyzed for total lead. After receiving the final lab report supporting the lead levels being <200 ppm, the property is determined to be compliant and a [Certificate of Compliance](#) is sent along with a sampling narrative, results report, site map, and Homeowner BMP Brochure. Table 1.0 represents the properties that were capped this year<sup>3</sup> and subsequent lead concentrations:

**Table 1.0 Capped Lots**

<b>SampleID</b>	<b>DateSampled</b>	<b>Address</b>	<b>AvgOfResult</b>	<b>Comments</b>
78378c	5/9/2006	1307 SULLIVAN RD	<b>33.56</b>	
78378d	5/9/2006	1311 SULLIVAN RD	<b>161.04</b>	
78378b	5/9/2006	1315 SULLIVAN RD	<b>71.5</b>	
78378	5/9/2006	1316 PARK AVE	<b>37.06</b>	
6814000272	9/11/2006	1790 BONANZA DR	<b>8.90</b>	
80256C	8/22/2006	1846 PROSPECTOR AVENUE	<b>258.66</b>	
78468	5/16/2006	1862 PROSPECTOR AVENUE	<b>837.14</b>	Vacant Lot
78468B	5/16/2006	1878 PROSPECTOR AVENUE	<b>837.14</b>	Vacant Lot
78468C	5/16/2006	1894 PROSPECTOR AVENUE	<b>837.14</b>	Vacant Lot
80256B	8/16/2006	2100 SIDEWINDER DRIVE	<b>20.75</b>	
79793	7/27/2006	2166 MONARCH DRIVE	<b>187</b>	
80256D	8/22/2006	2194 MONARCH DRIVE	<b>55.94</b>	
81371	10/24/2006	2197 COMSTOCK DRIVE	<b>29</b>	
79566	7/13/2006	2211 COMSTOCK DRIVE	<b>10.5</b>	
78970B	6/12/2006	2236 COMSTOCK DRIVE	<b>478.33</b>	
78675E	5/26/2006	2276 SAMUEL COLT COURT	<b>261.69</b>	
79793b	7/27/2006	2302 MONARCH DRIVE	<b>13.89</b>	
78751B	6/1/2006	2303 MONARCH DRIVE	<b>203</b>	
78468Z	5/16/2006	2337 WYATT EARP WAY	<b>325.27</b>	
78970	6/12/2006	2338 COMSTOCK DRIVE	<b>16.93</b>	
80130	8/15/2006	2349 DOC HOLLIDAY DRIVE	<b>15.10</b>	
80440	8/31/2006	2375 DOC HOLLIDAY DRIVE	<b>9</b>	
78675D	5/26/2006	2405 DOC HOLLIDAY DRIVE	<b>258.14</b>	
80256	8/17/2006	2452 LILY LANGTRY COURT	<b>21.28</b>	
79717	7/19/2006	2500 WYATT EARP	<b>30.73</b>	
103006	10/30/2006	2623 ANNIE OAKLEY DRIVE		Results not yet received.
80440B	8/31/2006	2653 ANNIE OAKLEY DRIVE	<b>22.5</b>	
78654	5/24/2006	445 MARSAC AVENUE	<b>9.39</b>	
6814000249	6/15/2006	PARK CITY HIGH SCHOOL PLAYING	<b>26</b>	
102006	10/25/2006	Silver Star Exportation	<b>1000</b>	Vacant Lot
4814000167	6/21/2006	UNION PACIFIC RIGHT OF WAY	<b>33.88</b>	

### **3.0 REVISED SOILS ORDINANCE - ADOPTED 06-27-2006**

The revisions to the “[Landscaping and Maintenance of Soil Cover Ordinance](#)” found within Park City Building Code Chapter 11-15 was revised this year and approved by City Council June 27<sup>th</sup> 2006. The revisions comprised of expanding the Soil Ordinance boundary to include Park City High School (PCHS) Facility. This was mutually agreed upon by the City and PCHS, based

<sup>3</sup> List includes lots within the original and expanded ordinance area.

upon an [Environmental Assessment](#) that was conducted by Amec Earth and Environmental, Inc (AMEC) for Park City School District dated January 20th, 2006, where it was revealed the property exhibited elevated underlying lead levels that exceed USEPA's Health Based Risk Standard of 400 ppm. Therefore, the purpose of revising the ordinance was to reinforce the City's and Park City School Districts commitment of protecting human health and the environment by including the school complex into the ordinance boundaries and applying the applicable institutional controls.

It should also be mentioned that PCMC and King Development Group, LLC have entered into the Voluntary Clean-up Program (VCP) with the Utah Department of Environmental Quality for the Alice Lode Mining site situated off of King Road. The Alice Lode Mining Claim comprises of 10.17 acres with 8.63 acres being owned by King Development Group and 1.54 acres owned by Park City Municipal Corporation (PCMC). The site was previously a silver mining claim that was operated from 1920 to 1935. PCMC successfully obtained Brownfield grant funding in 2003 resulting in a United States Environmental Protection Agency (USEPA) Targeted Brownfield Phase II Assessment being completed for this property.

The assessment revealed heavy metal contamination consistent with mine tailing impacts exceeding USEPA's Risk-Based Concentrations for residential and industrial property. It is PCMC and King Road Development Group intent to remediate the Alice Lode impacts to protect human health and the environment consistent with UDEQ oversight. Furthermore, this project directly coincides with the City's commitment to improve water quality within the Silver Creek Watershed by eliminating a contaminate source that impacts surface water quality within Woodside Gulch. The Utah Department of Environmental Quality has approved the [Work Plan](#) for this project that is scheduled to commence in 2007. After the site is remediated it is anticipated that the ordinance will be revised to include the VCP boundary and protect the site with the institutional controls and a site management plan.

Lastly, it is important to reiterate the following ordinance standards that were adopted in 2004:

- Acceptable cover was expanded from just grass and vegetation cover to include xeriscape landscaping practices. Specifically the standard requires a weed barrier fabric and 6" of rock or bark.
- Soils are strictly prohibited from being transported or reused outside the Soils Ordinance Boundary.
- Soils being disposed of are to be characterized for arsenic and lead and disposed of within a permitted facility depending on the TCLP characteristics.
- The reuse of soils within the Soils Ordinance Boundary is allowed providing the area is capped and the Building Department pre-approves the site.
- The boundary was redrawn to exclude Chatham Crossing due to PCMC, USEPA, and UDEQ concurring that the area does not pose a threat to human health or the environment. This was based on evaluating several years of soils data that further substantiated this claim.
- The boundary has been expanded to include the Transit Center and the CERCLIS Marsac Mill Site. The purpose of including the Transit Center was to protect the facility and the Marsac Mill site, which is known to contain elevated levels of heavy metals.
- Non-compliant lots were required to conform by December 31, 2004.
- Non-sampled and uncharacterized lots are to be sampled by 2006.
- Non-compliance has been upgraded to a nuisance and enforced as a Class B Misdemeanor.



- The lot-testing fee for compliance has been waived and is now done without a \$100.00 charge to the owner. In addition, the City conducts sampling on generated soils destined for disposal and there is no charge for TCLP analysis.
- No parking of vehicles on capped lots.

#### **4.0 ANNUAL LOT RISK ASSESSMENT**

The risk assessment was completed this year resulting in two properties; 2100 Sidewinder Drive and [2238 Sidewinder Drive](#) being identified as a nuisance and sent enforcement letters.

The property owners for these properties were taken to court and plead guilty for non-compliance and as a result a fine was issued in both cases. Typically the fines range from \$150 to \$1000 and it is at the discretion of the prosecutor who considers the extent of the infraction. The owner of 2100 Sidewinder Drive has re-landscaped the lot and a Certificate of Compliance was issued August 16<sup>th</sup> 2006. The owner of 2238 Sidewinder Drive has not completed the corrective actions to date and will be issued another warning in 2007 should the property not be mitigated.

##### **4.1 *Non-Characterized Lots***

On January 10<sup>th</sup>, 2006 the City sent out 15 [notices](#) that made owners aware that if they had not gotten their property sampled, that they were required to do so by January 1<sup>st</sup>, 2006. Because of this notice many owners requested that their lot be sampled for compliance. In addition, some of the lots sampled this year also completed corrective actions and installed a compliant cap to contain underlying lead levels. Therefore some of these lots are part of the dataset that were issued a Certificate of Compliance this year.

##### **4.2 *Wet Chemistry Results***

This year 14 lots were sampled and analyzed with wet chemistry to determine if the lead levels were compliant with the EMS standard. The volunteers for the verification sampling ranged from real estate agents to owners wanting to know the lead levels for their property. Reviewing the wet chemistry [results](#), out of 37 samples an average lead concentration of 338.96 ppm was revealed and determined to be compliant with the EMS screening threshold. It should also be noted that some of these property owners that participated in the EMS program became eligible for the Top Soil Assistance Program (Section 10.0) and should the cap be disturbed in the future would be able to recover \$450.00 for capping the lot.

#### **5.0 NON-COMPLIANT LOTS**

Similar to last year's annual report, on January 10<sup>th</sup> 2006 fifteen owners were provided with a "[Final Notice](#)" before being referred to the City Attorney's Office for enforcement. Within that notice they were required to submit a work plan by April 14<sup>th</sup> 2006 in order to avoid enforcement. This year the City followed up with those owners that were sampled in 2005 and had not capped the property due to the approaching winter.

#### **6.0 EDUCATION AND OUTREACH**

In order to assist with the EMS educational and outreach obligations, PCMC distributed two products titled "[Park City Environmental Information Handbook](#)" and "[Soils Ordinance Home Owners BMP Brochure](#)". This year the Environmental Information Handbook and Home

Owners BMP Brochure were revised to reflect the current compliance map along with the following:

- Soils Ordinance FAQ's.
- Residential Best Management Practices
- Ordinance Boundary Compliance Map
- Top Soils Assistance Program (TSAP)
- Soils Ordinance Boundary Map
- Streets within Boundary
- Addresses within Boundary
- Gardening and Plant Bed Recommendations
- Storm Water Quality
- Conservation Reserve Program
- Open Space Information
- Recycling Program
- Household Waste Oil Acceptors
- Drinking Water Information
- Water Treatment Information
- Blue Sky Program
- Contacts and Reference (This section included the county contact for blood lead testing.)

The handbook has been well received by the public since it clarified some misunderstandings the community has had with the ordinance. The handbook was sent to the following entities as a reference:

- All owners of property within the original and expanded boundary.
- Real Estate Agents
- Land Management
- Local Pediatricians
- HOA's
- Homebuyers
- PCMC employees
- Contractors
- Building Permit recipients

The second outreach product distributed, was the [Home Owners Best Management Practice Brochure](#). The BMP brochure was sent out to all residents within the Soils Ordinance Boundary on April 19<sup>th</sup> 2006 and October 18<sup>th</sup> 2006. This product is also made available in the Building and Planning Department and was sent to the EMS other outreach contacts that were agreed to by the Soils Stakeholder Group.

### **6.1 Soil Ordinance Resident Notices**

On January 6<sup>th</sup> 2006, residents that have an issued "Certificate of Compliance" were sent a [lead awareness letter](#). The purpose of the letter is to increase awareness to the underlying lead levels that are contained under the clean topsoil cap. For those that received this correspondence, the City had historical data on the initial sampling that occurred for the lot before it was capped. This data was queried from the Environmental Database and all lots with an underlying lead level that exceeded the USEPA Health Based Risk Standard (400 ppm lead) for residential

property receive this correspondence. Also the [Soils Ordinance Home Owners BMP brochure](#) was sent to all ordinance addresses on April 19<sup>th</sup> and October 18<sup>th</sup> 2006. The BMP brochure is also included in all newly issued “Certificate of Compliance” documents that are sent to the owners. Lastly, in addition to these outreach efforts, the brochure and handbook are made available at the Marsac Building and Park City Public Library.

## **6.2 *Summit County Lead Screening Services***

The Summit County Blood Lead Screening Service has been mentioned in both the Homeowner BMP Brochure and the Environmental Information Handbook under contacts and FAQs. The address and phone number for the county testing program is documented in these two outreach products for residents that wish to be tested. In addition, the City receives phone inquiries for testing children and they are referred to the Summit County Health Department.

## **6.3 *New Residents and Renters Orientation***

PCMC has supplied the Environmental Information Handbook and BMP brochure to land management and real estate agencies. [Addendum 13](#) represents the letter that was sent along with the BMP brochures, which were sent to those companies on February 7<sup>th</sup> 2006. The Building Department receives numerous calls from prospective buyers and real estate agents requesting the information handbooks and BMP brochures.

## **6.4 *Real Estate Agent Orientation***

Real Estate agencies were provided with the [Environmental Information Handbook](#) and [BMP brochure](#) for distribution and to make them aware of the ordinance standards. Nineteen agencies were sent this information on February 7<sup>th</sup> 2006. Furthermore, the Real Estate Community has been educated by PCMC presenting at the Board of Realtor meetings. During the meetings the handbook is distributed along with ordinance boundary maps, so there is no confusion regarding the boundaries.

## **6.5 *Lead Awareness Campaign to Local Physicians***

On February 7<sup>th</sup> 2006, five clinics were sent an [awareness correspondence](#) along with numerous BMP brochures for distribution. The correspondence also contained the Environmental Information Handbook that identifies the addresses that reside within the ordinance for reference purposes. Within the letter PCMC encourages physicians to test for blood lead for those clients residing within the boundary.

## **7.0 PROSPECTOR SAMPLING RECORDS AND DATA**

PCMC continues to populate a comprehensive database to track lot compliance and analytical results. The database has been populated with analytical results dating back to 1985. This data includes initial sampling projects as well as verification sampling results that are conducted after the cap is installed. The system is integrated into a GIS ArcMap project that plots all capped lots and spatial evaluations can be conducted in regards to lead levels. Lastly, the GIS ArcMap continues to expand upon the discovery of new historic mining impacts and was recognized by the National League of Cities this year.

## **8.0 PROSPECTOR DRAIN OUTFALL**

This year PCMC with oversight from Dr. Fitch with the University of Missouri Rolla Civil



Environmental Engineering Department and David Reisman who is the Director of USEPA's ORD Engineering Technical Support Center and National Risk Management Research Laboratory re-constructed the pilot anaerobic wetland cell. The intent of reconstructing the unit was to build the cell in a manner consistent with Mr. Reisman's recommendations and the Silver Creek Stakeholder Group. Furthermore, Bill Duncan and Al Mattes with Nature Works (<http://www.nature-works.net>) provided valuable input to increase the functionality of the biocell. After consulting with these experts, the unit was rebuilt using manure as a substrate inoculate and introducing limestone rock as well as installing three sampling ports within the three substrate sections. Also, the one storm water inflow grate that influenced the drain was covered, thereby isolating the flow to convey only shallow ground water to the treatment system.



Picture 15: Reconstructed Bio-cell June 06.

In conjunction with the rebuilding of the pilot, PCMC also designed a [vault](#) that will be installed upstream to the full-scale wetland. The purpose of the vault is to act as a bypass, in the event the flow exceeds the treatment capacity. Within this unit, PCMC also proposes to have flow meters installed in this unit in order to monitor the flow entering the biocell as well as the flow bypassing the treatment unit.

The new pilot has been sampled for three months, revealing the process reduces zinc by 85% and cadmium 80%. It is anticipated that the full-scale unit will be built in 2007 with Dr. Fitch providing technical oversight as well as UDEQ, USEPA, and the Upper Silver Creek Watershed Stakeholder Group, being involved in the construction. [Addendum 15](#) contains the results for the pilot cell to September 22<sup>nd</sup> 2006 and [Addendum 14](#) contains a summary of the sampling results for the Prospector Drain.

Funding for this project was approved by the City Council and a budget of \$150,000.00 was allocated for the construction of an anaerobic treatment system for treating the Prospector drain.

## **9.0 WORKER HEALTH AND SAFETY**

All external and internal utility or contract workers involved in generating soils and earthwork have been provided with a Worker Health and Safety Notice and recommended protective equipment. It is PCMC intent to increase worker awareness of practices that they can employ to minimize exposure to them and their families. This year the Park City High School reconstruction project commenced after the contractor submitted a Soils Management Protocol, Storm Water Management Plan, and Work Health and Safety. Also the contractor was required to provide employees with the Worker Health and Safety Notice and make them aware of the necessary personal protection required for the project.

Other companies that were required to fulfill the above worker health and safety requirements and soil management protocol were Comcast, Park City Municipal Corporation, and Silver Star Development. The City requires larger projects submit a more extensive soils management plan that specifies the worker health and safety requirements (PPE), disposal companies, and best management practices as it relates to storm water controls.

## **10.0 TOP SOIL ASSISTANCE PROGRAM (TSAP)**

Consistent with Council policy direction and to encourage accelerated compliance with the Soils Ordinance, the City has budgeted \$32,000 in fiscal year 2005 and \$15,000 Fiscal Year 2006. The implementation of the proposed [TSAP](#) is to provide property owners with assistance and incentive to procure compliant topsoil to adequately cap properties with known elevated lead levels. The TSAP has been divided into two funding phases; Phase I is specific to lots within the Original Ordinance Boundary (Prospector) and a Phase II is for the properties within the entire Soils Ordinance Boundary (Original and Expanded). The program was approved and funded by the City Council on August 11<sup>th</sup> 2004 and is administered by the Building Department. Upon issuance of a Certificate of Compliance the owner is provided with a TSAP summary fact sheet and instructions for reimbursement.

To date fifty-two property owners have participated in the TSAP, resulting \$ 23,467.44 being reimbursed for the purchase of acceptable cover. The City believes that the Phase II component of this program is a long-term incentive for property owners that will need to cap property due to elevated lead levels exceeding the ordinance threshold.